

Amendments to the Claims

Claim 1 (re-presented – formerly claim 3): An apparatus for railcar data acquisition and communication, said apparatus comprising:

a data acquisition module adapted for acquiring railcar data from a railcar and generating acquired data; and

an electronic transmitter adapted for receiving said acquired data, deriving transmitted data from said acquired data, and transmitting said transmitted data,

said data acquisition module comprising a single-wire interface adapted for converting single-wire data to said acquired data.

Claim 2 (original): The apparatus of claim 1 wherein said electronic transmitter is further adapted for wirelessly transmitting said transmitted data.

Claim 3 (cancelled)

Claim 4 (currently amended): The apparatus of claim ~~3~~ 1 wherein said data acquisition module further comprises a single-wire identification device adapted for converting identification data to said single-wire data.

Claim 5 (currently amended): The apparatus of claim ~~3~~ 1 wherein said data acquisition module further comprises a single-wire thermometer adapted for measuring a temperature of said railcar and converting said temperature to said single-wire data.

Claim 6 (currently amended): The apparatus of claim ~~3~~ 1 wherein said data acquisition module further comprises:

a single-wire counter adapted for counting data pulses to yield a data pulse count and converting said data pulse count to said single-wire data; and

a wheel shaft encoder adapted for generating said data pulses as a function of

revolutions of a wheel of said railcar.

Claim 7 (currently amended): The apparatus of claim 3- 1 wherein said data acquisition module further comprises a single-wire analog interface adapted for converting an analog sensor signal from an analog sensor to said single-wire data.

Claim 8 (original): The apparatus of claim 7 wherein said analog sensor is selected from a group consisting of load cells, vibration sensors, level sensors, pressure sensors, and humidity sensors.

Claim 9 (original): The apparatus of claim 1 further comprising a touch pad interface adapted for communicating said acquired data to an external touch pad.

Claim 10 (original): The apparatus of claim 9 wherein said touch pad interface is further adapted for receiving touch pad data from a second external touch pad.

Claim 11 (original): A system comprising:

a railcar;

a data acquisition module adapted for acquiring railcar data from said railcar and generating acquired data; and

an electronic transmitter adapted for receiving said acquired data, deriving transmitted data from said acquired data, and transmitting said transmitted data,

said electronic transmitter being further adapted for wirelessly transmitting said transmitted data,

said data acquisition module comprising a single-wire interface adapted for converting single-wire data to said acquired data.

Claim 12 (original): The system of claim 11 wherein said data acquisition module further comprises a single-wire identification device adapted for converting identification data to said single-wire data.

Claim 13 (original): The system of claim 11 wherein said data acquisition module further comprises a single-wire thermometer adapted for measuring a temperature of said railcar and converting said temperature to said single-wire data.

Claim 14 (original): The system of claim 11 wherein said data acquisition module further comprises:

a single-wire counter adapted for counting data pulses to yield a data pulse count and converting said data pulse count to said single-wire data; and

a wheel shaft encoder adapted for generating said data pulses as a function of revolutions of a wheel of said railcar.

Claim 15 (original): The system of claim 11 wherein said data acquisition module further comprises a single-wire analog interface adapted for converting an analog sensor signal from an analog sensor to said single-wire data.

Claim 16 (original): The system of claim 15 wherein said analog sensor is selected from a group consisting of load cells, vibration sensors, level sensors, pressure sensors, and humidity sensors.

Claim 17 (original): The system of claim 11 further comprising a touch pad interface adapted for communicating said acquired data to an external touch pad.

Claim 18 (original): The system of claim 17 wherein said touch pad interface is further adapted for receiving touch pad data from a second external touch pad.

Claim 19 (re-presented – formerly claim 21): A method for railcar data acquisition and communication, said method comprising:

acquiring railcar data from a railcar;

generating acquired data from said railcar data;

deriving transmitted data from said acquired data; and

transmitting said transmitted data,

said step of generating comprising converting single-wire data to said acquired data.

Claim 20 (original): The method of claim 19 wherein said step of transmitting comprises wirelessly transmitting said transmitted data.

Claim 21 (cancelled)

Claim 22 (currently amended): The method of claim ~~21~~ 19 wherein said step of converting comprises converting identification data to said single-wire data.

Claim 23 (currently amended): The method of claim ~~21~~ 19 wherein said step of converting comprises measuring a temperature of said railcar and converting said temperature to said single-wire data.

Claim 24 (currently amended): The method of claim ~~21~~ 19 wherein said step of converting comprises:

counting data pulses to yield a data pulse count;

converting said data pulse count to said single-wire data; and

generating said data pulses as a function of revolutions of a wheel of said railcar.

Claim 25 (currently amended): The method of claim ~~21~~ 19 wherein said step of converting comprises converting an analog sensor signal from an analog sensor to said single-wire data.

Claim 26 (original): The method of claim 25 wherein said analog sensor is selected from a group consisting of load cells, vibration sensors, level sensors, pressure sensors, and humidity sensors.

Claim 27 (original): The method of claim 19 further comprising communicating said acquired data to an external touch pad.

Claim 28 (original): The method of claim 27 wherein said step of communicating further comprises receiving touch pad data from a second external touch pad.

Claim 29 (original): A method for railcar data acquisition and communication, said method comprising:

acquiring railcar data from a railcar;

generating acquired data from said railcar data;

deriving transmitted data from said acquired data; and

transmitting said transmitted data,

said step of transmitting comprising wirelessly transmitting said transmitted data,

said step of generating comprising converting single-wire data to said acquired data.

Claim 30 (original): The method of claim 29 wherein said step of converting comprises converting identification data to said single-wire data.

Claim 31 (original): The method of claim 29 wherein said step of converting comprises measuring a temperature of said railcar and converting said temperature to said single-wire data.

Claim 32 (original): The method of claim 29 wherein said step of converting comprises:

counting data pulses to yield a data pulse count;

converting said data pulse count to said single-wire data; and

generating said data pulses as a function of revolutions of a wheel of said railcar.

Claim 33 (original): The method of claim 29 wherein said step of converting comprises converting an analog sensor signal from an analog sensor to said single-wire

data.

Claim 34 (original): The method of claim 33 wherein said analog sensor is selected from a group consisting of load cells, vibration sensors, level sensors, pressure sensors, and humidity sensors.

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also
Claim 35 (original): The method of claim 29 further comprising communicating said acquired data to an external touch pad.

Claim 36 (original): The method of claim 35 wherein said step of communicating further comprises receiving touch pad data from a second external touch pad.
